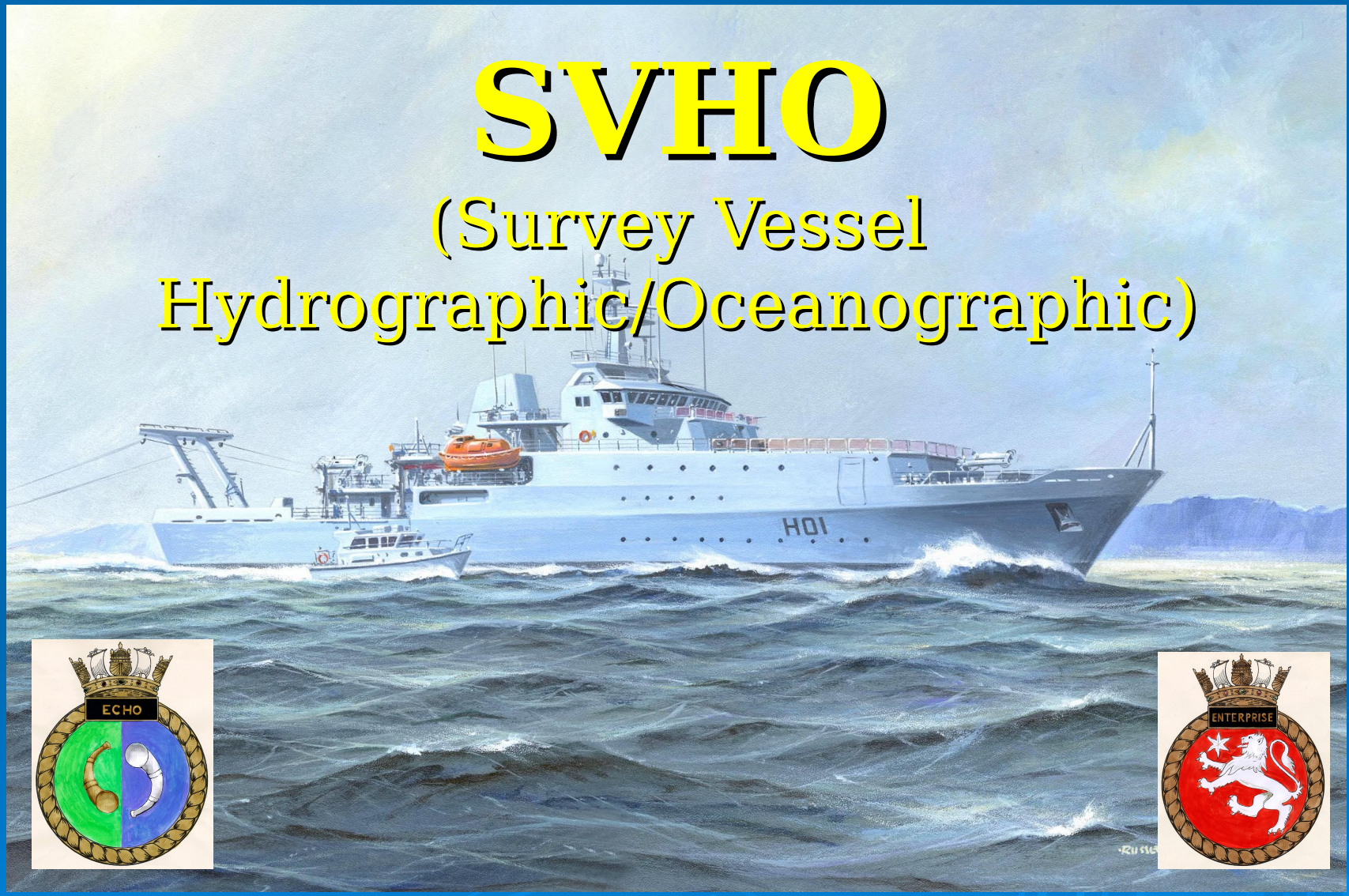
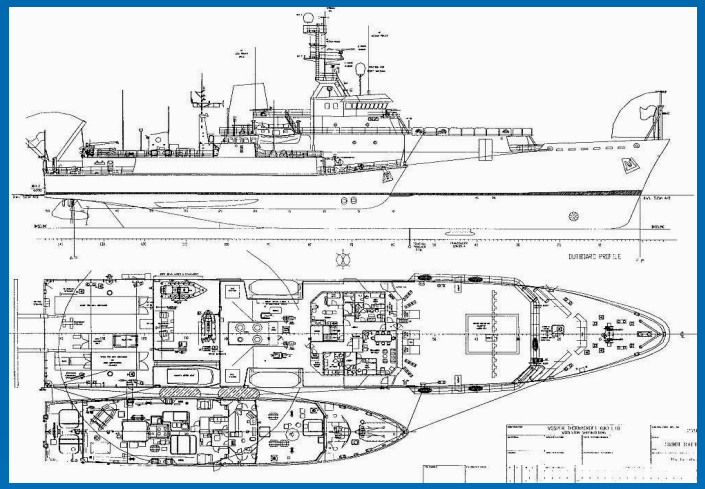
SVHO

(Survey Vessel Hydrographic/Oceanographic)



SVHO – Endorsed Roles

- Strategic Environmental Data Gathering
  - Hydrographic & Oceanographic Survey
  - World-wide capability - 80º N to 55º S
  - Operate in mid sea state 6
- Operational Roles
  - Rapid Environmental Assessment (REA)
  - Support for Amphibious Warfare (AW) ops
  - MCM Support



SVHO - Main Contract Features

- Prime contractor (VT) to oversee ship build and provide 25 year Contractor Logistic Support (CLS) package
  - VT contracted to deliver material availability of 334 days per year
- RN manned, but small cadre of Sponsored Reservists (due to CLS)
- Commercial build
  - Generally iaw MCA Special Purpose Ship Code
  - Lloyds classification: +100A1, Ice Class 1C, UMS (unmanned machinery space), IWS (in water survey), etc, etc!!

SVHO – Vital Statistics

- 3523 tons (3751 deep load), 90.6m x 18.6m x 5.3m
- >15 kts (max), range >9000 miles, endurance >35 days
- Diesel electric propulsion
  - 2 x 1.7 mW Azipod thrusters (first in RN service), plus transverse bow thrust (0.35 mW)
  - 3 x Ruston 6RK270 Mk II (1.6mW each); 1 x harbour generator (0.55 mW); emergency generator
- Kongsberg Simrad (KS) Integrated Survey S
- Kelvin Hughes Integrated Navigation Systen
  - 2 x I band radars; ECDIS; military GPS, Loran
  - Shares data with ISS
- Thales Integrated Communications System (
  - HF/UHF; Inmarsat B
  - Space provision for Military SatCom (SCOT)
- Fit to receive (FTR) 20 or 30mm, GPMG, DL
- NBC citadel, inc machinery spaces
- RAS(L) and light line capable
- Vertrep Deck (fixed guard rails)
- 81 bunks (single or twin berth cabins, all with en suite facilities)

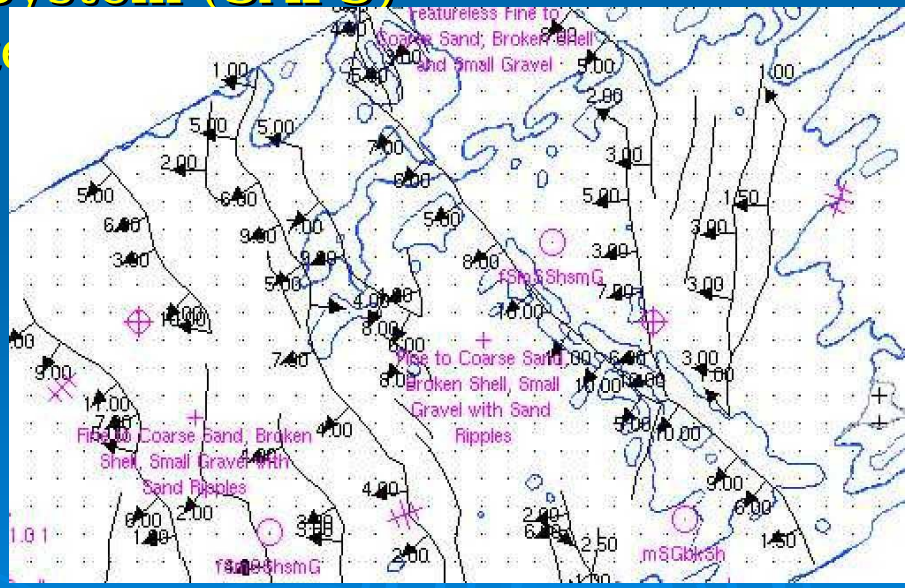
HMS ECHO – port Azipod (the pods *pull* when going ahead)

Hydrographic Equipment

- ISS comprises following KS equipment:
  - SPS 2000 - Survey Planning System (ECDIS based)
  - MDM 400 - Marine Data Management system
    - Redundant Array of Independent Devices (RAID)
  - ‘Neptune’ and ‘Triton’ Processing Software
  - EM 1002 MBES – 3m to ~400+m
  - EA 600 SBES No 1 (200, 38 and 12 kHz) – 6000+m
  - EA 600 SBES No 2 (200 and 38 kHz) – 1000+m
  - HiPAP – acoustic positioning of towed bodies
  - SSU – Synchronising Unit controls timing of acoustic transmitters
  - SJS – joystick providing computerised control of thrusters
    - Option exists to upgrade to full Dynamic Positioning (DP)

Hydrographic Equipment - cont.

- Non-KS equipment integrated with ISS:
  - Commercial DGPS (currently Fugro MN8qc)
  - POS mv + Inertial Motion Unit (IMU) – heading/attitude
  - Sonar 2094 SSS + Geochirp Sub-bottom Profiler (SBP)
  - Sonar Acquisition Processing System (SAPS)
  - Geometrics G880 Magnetomete
  - Valeport Seabed tidegauges
- Other H systems:
  - Bar check
  - Wire sweep winches/gallows
  - Bottoming winch (deployed from Baltic Room)



Example of Texture Sheet produced using SAPS

9.5m Survey Motor Boat (SMB)

- One SMB per ship, fitted with:
  - EM 3000 MBES
    - 3m to ~70m
  - SPS 2000
  - EA 400 SBES
  - POS MV + IMU
  - Sonar 2094
  - Del Norte 1009/1012 and MBX3 ('D' beacon) DGPS

SMB PATHFINDER in build

- Data usually processed in ship, but processing can be undertaken in SMB

Manpower

- RN Complement – 72 (mixed manned)
  - 13 Officers, 21 Senior Rates, 38 Junior Rates
- Watch Rotation (SCOTT model) – 49 onboard at any one time
  - 8 Officers, 14 Senior Rates, 26 Junior Rates, 1 Sponsored Reserve
- MCMTA – when embarked, up to 22 extra, occupying ‘spare’ bunks vacated by 3rd watch